

ASUS PRIME Z890-P Intel Z890 LGA 1851 (Socket V1) ATX

Model: 90MB1I50-M0EAY0

Manufacturer: ASUS

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R5,067

ASUS PRIME series motherboards are expertly engineered to unleash the full potential of the latest Intel® Core™ Ultra Processors (Series 2). Boasting a robust power design, comprehensive cooling solutions and intelligent tuning options, the PRIME Z890-P motherboard provides users and PC DIY builders with a range of performance optimizations via intuitive software and firmware features. It’s designed to be Advanced AI PC-ready, offering the power and connectivity needed for demanding AI applications.

Performance

AI Solutions

ASUS AI Solutions include AI Advisor as your technical expert with expertise in PC performance, and AI Cooling II for automated temperature control.

AI Advisor

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ASUS AI Advisor allows users to explore the functionality and advanced features of ASUS motherboards in a simple and straightforward way.1

AI Cooling II

Optimized thermals and reduced noise via dynamic adjustment of fan speeds, based on CPU temperatures.

Performance

NPU Boost

The integrated NPU in Intel® Core™ Ultra Processors (Series 2) efficiently accelerates AI workflows — and NPU Boost lets you do more with it. This BIOS feature overclocks the NPU with just one click, increasing performance by up to 24%.2

Performance

Robust power design

Stable power is crucial for maximizing the performance of Intel® Core™ Ultra Processors (Series 2). The PRIME Z890-P is designed to meet the needs of high-core-count CPUs. It features 14(80A) + 1(80A) + 2(80A) + 1(80A) power stages that integrate high-side and low-side MOSFETs and drivers into packages rated for up to 80 amperes each. This configuration ensures optimal power delivery, efficiency, stability and performance for both current and future Intel® processors.

Enhanced Memory & Storage Performance

AEMP III for Ultimate DDR5 Performance

ASUS Enhanced Memory Profile III (AEMP III) is an advanced firmware feature that empowers users to achieve unparalleled memory performance with cutting-edge CUDIMM memory. Through a two-phase comprehensive tuning process, AEMP III first optimizes the clock driver and then the memory frequency. This results in the best balance between performance and stability, even at cutting-edge speeds of DDR5-7600 or higher.3

DIMM Fit

DIMM Fit is an ASUS-exclusive BIOS feature that precisely analyzes individual memory modules to optimize performance and pinpoint potential issues. This offers peak efficiency, compatibility, and system stability. Whether you are an overclocker seeking ultimate performance, a competitor

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pursuing the most responsive gameplay, or a content creator prioritizing rock-solid stability, DIMM Fit provides optimizations tailored to your needs and your hardware configuration.

Four M.2 slots (up to 128Gbps)

PRIME Z890-P offers a total of four M.2 slots, including one that supports data-transfer speeds of up to 128Gbps via PCIe 5.0, three that support 64Gbps via PCIe 4.0. This enables quicker boot-up and app load times with OS or application drives.4

Cooling

Cooler by design

The PRIME Z890-P motherboard is engineered with multiple onboard heatsinks and an array of hybrid fan headers to help ensure your rig stays cool and stable under intense workloads.

Cooling

Smart cooling precision

ASUS Fan Xpert 4

ASUS Fan Xpert 4 software offers comprehensive control over fans and AIO coolers. Auto-Tuning mode configures settings with one click, while Extreme Quiet mode reduces fan speeds for silent operation during light tasks. Controls are also available via the UEFI BIOS.

Cooler compatibility

ASUS AIO coolers offer robust performance, high overclocking potential, bold aesthetics and customizable functionality for new motherboards, empowering you to build your dream gaming rig.5

Flexibility

Empowering connections

The PRIME Z890-P motherboard offers a versatile range of connectivity, including the latest version of PCI Express, while an arsenal of USB ports includes Type-C® connections expands compatibility and bandwidth even further.

USB 20Gbps port with DP Alt Mode

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A batch of USB ports supports high-end rigs loaded with peripherals, including a rear USB Type-C® port with transmission speeds of up to 20Gbps. The port can also support external 4K DisplayPort video output.

PCIe 5.0 slot

The latest processors introduce PCIe 5.0 support, doubling data transfer speeds compared to PCIe 4.0, enhancing signal integrity, and providing backward-compatible CEM connectors and support for previous PCIe versions.

Customization

Personalization

The PRIME Z890-P enhances the user experience across the board, from simplifying BIOS setting adjustments to offering customizable RGB lighting controls for a uniquely personal system aesthetic.

UEFI BIOS

The UEFI interface delivers easy-to-use configuration options for PC beginners, and advanced features for veterans.

TurboV Core

Intuitive overclocking within Windows. No BIOS interface, no reboots. Simple and swift performance tuning at your fingertips.

ASUS DriverHub

Simplify driver management with automatic detection, one-click installation and update for smooth, efficient system performance.

Armoury Crate

Customize Aura Sync RGB and control ASUS devices. Includes product registration and updates.

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Aura Sync

Complete RGB lighting control for enthusiast systems, ensuring seamless synchronization with compatible hardware.

Addressable Gen2 RGB headers

Three Addressable Gen2 headers detect LED counts on compatible RGB devices, automatically adjusting lighting effects accordingly.

Customization

DIY friendly

The PRIME Z890-P motherboard features EZ PC DIY innovations that simplify and speed up the PC building process, making DIY easy and convenient.

PCIe Slot Q-Release

A physical lever unlocks the first PCIe slot’s security latch with one tap, greatly simplifying the process of detaching a PCIe card from the motherboard when it’s time to upgrade to a new graphics card or other compatible device.

M.2 Q-Latch

The innovative ASUS Q-Latch makes it easy to install or remove an M.2 SSD without the need for specific tools or screws. This design employs a simple locking mechanism to secure the drive and neatly detach it with one tap.

Q-LED Core

The Q-LED Core display produces color-coded lights during the Power-On Self-Test (POST) that can help you troubleshoot potential issues.

Pre-mounted I/O shield

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Our pre-installed I/O shield safeguards ports, simplifies the build process, increases functionality and enhances aesthetics for PC DIY enthusiasts.

BIOS FlashBack™

BIOS FlashBack™ simplifies BIOS updates. Just load the BIOS file onto a FAT32 USB stick, insert it into the BIOS FlashBack™ port, and press a button — no CPU or memory needed.

SafeSlot

PCIe 5.0 is twice as fast as PCIe 4.0. ASUS has adapted our SMT manufacturing for the faster SafeSlot, a reinforced metal sheath that ensures secure card installation and faster data speeds.

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